

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A system, comprising:

at least two active server processes, including a first server process and a second server process, adapted to perform tasks issued by a browser, wherein the first server process and the second server process are each on a different cluster configured to be a domain server, wherein the first server process and the second server process each have a list of agent processes within a domain that are registered with that server process, and wherein the first server process and the second server process each forward each task issued by the browser to that server process to a registered agent process to perform that task;

a server system comprising two clusters, wherein each of the two clusters is aware of the first server process and the second server process;

wherein each of the two clusters includes:

a first agent process at the cluster that is registered with the first server process to notify the first server process that the first agent process exists to perform tasks for the first server process to complete the tasks issued by the browser, wherein the first agent process and the first server process form a first agent/server pair;

a second agent process at the cluster that is registered with the second server process to notify the second server process that the second agent process exists to perform tasks for the second server process to complete the tasks issued by the browser, wherein the second server process is different from the first server process with which the first agent process is registered, wherein the second agent process and the second server process form a second agent/server pair; and

wherein when one of the first agent/server pair ~~process~~ and the second agent/server pair ~~process~~ fails, the other of the first agent/server pair ~~process~~ and the second agent/server pair ~~process~~ continues processing in the cluster; ~~and~~

~~wherein when one of the two clusters fails, the other one of the two clusters continues processing in the server system.~~

2. (Previously Presented) The system of claim 1, wherein one of the two clusters is a first cluster, wherein the first server process executes at a second cluster, and wherein the second server process executes at a third cluster.

3. (Previously Presented) The system of claim 1, wherein the first server process executes at a first cluster and the second server process executes at a second cluster.

4. (Original) The system of claim 1, wherein at least one of the first server process and the second server process execute at a host system.

5. (Previously Presented) The system of claim 1, further comprising:
persistent data at each of the two clusters storing configuration and state information for one or more storage devices accessed by the cluster, wherein the configuration information includes how many storage devices are in the cluster, and wherein the state information includes an indication of whether each storage device is available or unavailable.

6. (Original) The system of claim 1, further comprising:
means for, when the first server process and first agent process fail while executing a task, executing the task with the second server process and second agent process.

7. (Original) The system of claim 1, further comprising:
means for, when the first server process and first agent process fail while executing a first task, continuing to execute a second task with the second server process and second agent process.

8. (Original) The system of claim 1, further comprising:
means for detecting a first server and a second server;
means for registering the first agent process with the first server process at the first server;
means for registering the second agent process with the second server process at the second server;

means for, when a task is to be executed by the first server process, executing the task with the first agent process; and

means for, when the task is to be executed by the second server process, executing the task with the second agent process.

9. (Currently Amended) The system of claim 1, wherein the first agent process and the second agent process are launched at one of the two clusters and further comprising:

means for collecting configuration information, including how many storage devices are in the cluster, and state information, including whether each storage device is available or unavailable;

means for storing the configuration and state information as persistent data at the cluster; under control of the first agent process in the first agent/server pair,

(i) means for retrieving stored configuration and state information; and

(ii) means for transmitting the retrieved configuration and state information to the first server process in the first agent/server pair; and

under control of the second agent process in the second agent/server pair,

(i) means for retrieving stored configuration and state information; and

(ii) means for transmitting the retrieved configuration and state information to the second server process in the second agent/server pair.

10. (Currently Amended) The system of claim 1, wherein the first agent process and the second agent process are launched [[at]] at one of the two clusters, and further comprising:

means for receiving at least one of changed configuration information and changed state information for the cluster, wherein the configuration information includes how many storage devices are in the cluster, and wherein the state information includes an indication of whether each storage device is available or unavailable; and

means for storing the at least one of changed configuration information and changed state information as persistent data at the cluster;

means for broadcasting the at least one of changed configuration information and changed state information for the cluster; and

under control of the first agent process in the first agent/server pair,

(i) means for retrieving the stored at least one of changed configuration information and state information; and

(ii) means for transmitting the retrieved at least one of changed configuration information and state information to the first server process in the first agent/server pair; and under control of the second agent process in the second agent/server pair,

(i) means for retrieving the stored at least one of changed configuration information and state information; and

(ii) means for transmitting the retrieved at least one of changed configuration information and state information to the second server process in the second agent/server pair.

11. (Original) The system of claim 1, wherein the first agent process is launched if a first server is configured and wherein the second agent process is launched if a second server is configured.

12. (Original) The system of claim 1, further comprising:
under control of the first agent process,

means for receiving a request to execute the task from the first server process;
means for storing identification for the first agent process in persistent data;
means for invoking a driver process for executing the task;
means for receiving task completion status from the driver process; and
means for forwarding the task completion status to the first server process.

13. (Currently Amended) A method for task processing and monitoring of configuration and state information, comprising:

detecting a server comprising two clusters, wherein the server is adapted to perform tasks issued by a browser, wherein each of the two clusters is aware of a first server process and a second server process, wherein the first server process and the second server process are each on a different cluster configured to be a domain server, wherein the first server process and the second server process each have a list of agent processes within a domain that are registered with that server process, and wherein the first server process and the second server

process each forward each task issued by the browser to that server process to a registered agent process to perform that task;

at each of the two clusters,

registering a first agent process with a first server process to notify the first server process that the first agent process exists to perform tasks for the first server process to complete the tasks issued by the browser, wherein the first agent process and the first server process form a first agent/server pair;

registering a second agent process with a second server process to notify the second server process that the second agent process exists to perform tasks for the second server process to complete the tasks issued by the browser, wherein the second server process is different from the first server process with which the first agent process is registered, wherein the second agent process and the second server process form a second agent/server pair;

when a task is to be executed by the first server process, executing the task with the first agent process;

when the task is to be executed by the second server process, executing the task with the second agent process; and

wherein when one of the first agent/server pair process and the second agent/server pair process fails, the other of the first agent/server pair process and the second agent/server pair process continues processing in the cluster; ~~and~~

~~wherein when one of the two clusters fails, the other one of the two clusters continues processing in the server system.~~

14. (Previously Presented) The method of claim 13, further comprising:

at each of the two clusters, storing configuration and state information for one or more storage devices accessed by that cluster as persistent data at the cluster, wherein the configuration information includes how many storage devices are in the cluster, and wherein the state information includes an indication of whether each storage device is available or unavailable.

15. (Currently Amended) The method of claim 14, wherein the first agent process is launched at one of the two clusters and further comprising:

collecting configuration information, including how many storage devices are in the cluster, and state information, including whether each storage device is available or unavailable;
storing the configuration and state information as persistent data at the cluster;
under control of the first agent process in the first agent/server pair,
 (i) retrieving the stored configuration and state information; and
 (ii) transmitting the retrieved configuration and state information to the first server process in the first agent/server pair.

16. (Currently Amended) The method of claim 13, wherein the second agent process is launched at one of the two clusters and further comprising:

collecting configuration information, including how many storage devices are in the cluster, and state information, including whether each storage device is available or unavailable;
storing the configuration and state information as persistent data at the cluster;
under control of the second agent process in the second agent/server pair,
 (i) retrieving the stored configuration and state information; and
 (ii) transmitting the retrieved configuration and state information to the second server process in the second agent/server pair.

17. (Currently Amended) The method of claim 13, wherein the first agent process is launched at one of the two clusters and further comprising:

receiving at least one of changed configuration information and changed state information for the cluster, wherein the configuration information includes how many storage devices are in the cluster, and wherein the state information includes an indication of whether each storage device is available or unavailable;
storing the at least one of changed configuration information and changed state information as persistent data at the cluster;
broadcasting the at least one of changed configuration information and changed state information for the cluster; and
under control of the first agent process in the first agent/server pair,
 (i) retrieving the stored at least one of changed configuration information and state information; and

(ii) transmitting the retrieved at least one of changed configuration information and state information to the first server process in the first agent/server pair.

18. (Currently Amended) The method of claim 14, wherein the second agent process is launched at one of the two clusters and further comprising:

receiving at least one of changed configuration information and changed state information for the cluster, wherein the configuration information includes how many storage devices are in the cluster, and wherein the state information includes an indication of whether each storage device is available or unavailable;

storing the at least one of changed configuration information and changed state information as persistent data at the cluster;

broadcasting the at least one of changed configuration information and changed state information for the cluster; and

under control of the second agent process in the second agent/server pair,

(i) retrieving the stored at least one of changed configuration information and state information; and

(ii) transmitting the retrieved at least one of changed configuration information and state information to the second server process in the second agent/server pair.

19. (Original) The method of claim 13, wherein the first agent process is launched if a first server is configured and wherein the second agent process is launched if a second server is configured.

20. (Original) The method of claim 13, further comprising:

under control of the first agent process,

receiving a request to execute the task from the first server process;

storing identification for the first agent process in persistent data;

invoking a driver process for executing the task;

receiving task completion status from the driver process; and

forwarding the task completion status to the first server process.

21. (Original) The method of claim 13, further comprising:

under control of the second agent process,

receiving a request to execute the task from the second server process;

storing identification for the second agent process in persistent data;

invoking a driver process for executing the task;

receiving task completion status from the driver process; and

forwarding the task completion status to the second server process.

22. (Currently Amended) An article of manufacture embodied as a computer readable storage medium for task processing and monitoring of configuration and state information, wherein the article of manufacture is capable of causing operations to be performed, the operations comprising:

detecting a server comprising two clusters, wherein the server is adapted to perform tasks issued by a browser, wherein each of the two clusters is aware of a first server process and a second server process, wherein the first server process and the second server process are each on a different cluster configured to be a domain server, wherein the first server process and the second server process each have a list of agent processes within a domain that are registered with that server process, and wherein the first server process and the second server process each forward each task issued by the browser to that server process to a registered agent process to perform that task;

at each of the two clusters,

registering a first agent process with a first server process to notify the first server process that the first agent process exists to perform tasks for the first server process to complete the tasks issued by the browser, wherein the first agent process and the first server process form a first agent/server pair;

registering a second agent process with a second server process to notify the second server process that the second agent process exists to perform tasks for the second server process to complete the tasks issued by the browser, wherein the second server process is different from the first server process with which the first agent process is registered, wherein the second agent process and the second server process form a second agent/server pair;

when a task is to be executed by the first server process, executing the task with the first agent process;

when the task is to be executed by the second server process, executing the task with the second agent process; and

wherein when one of the first agent/server pair ~~process~~ and the second agent/server pair ~~process~~ fails, the other of the first agent/server pair ~~process~~ and the second agent/server pair ~~process~~ continues processing in the cluster; ~~and~~

~~wherein when one of the two clusters fails, the other one of the two clusters continues processing in the server system..~~

23. (Previously Presented) The article of manufacture of claim 22, wherein the operations further comprise:

at each of the two clusters, storing configuration and state information for one or more storage devices accessed by that cluster as persistent data at the cluster, wherein the configuration information includes how many storage devices are in the cluster, and wherein the state information includes an indication of whether each storage device is available or unavailable.

24. (Currently Amended) The article of manufacture of claim 23, wherein the first agent process is launched at one of the two clusters and wherein the operations further comprise:

collecting configuration information, including how many storage devices are in the cluster, and state information, including whether each storage device is available or unavailable;
storing the configuration and state information as persistent data at the cluster;
under control of the first agent process in the first agent/server pair,

(i) retrieving the stored configuration and state information; and

(ii) transmitting the retrieved configuration and state information to the first server process in the first agent/server pair.

25. (Currently Amended) The article of manufacture of claim 23, wherein the second agent process is launched at one of the two clusters and wherein the operations further comprise:

collecting configuration information, including how many storage devices are in the cluster, and state information, including whether each storage device is available or unavailable;
storing the configuration and state information as persistent data at the cluster;
under control of the second agent process in the second agent/server pair,
(i) retrieving the stored configuration and state information; and
(ii) transmitting the retrieved configuration and state information to the second server process in the second agent/server pair.

26. (Currently Amended) The article of manufacture of claim 23, wherein the first agent process is launched at one of the two clusters and wherein the operations further comprise:
receiving at least one of changed configuration information and changed state information for the cluster, wherein the configuration information includes how many storage devices are in the cluster, and wherein the state information includes an indication of whether each storage device is available or unavailable;
storing the at least one of changed configuration information and changed state information as persistent data at the cluster;
broadcasting the at least one of changed configuration information and changed state information for the cluster; and
under control of the first agent process in the first agent/server pair,
(i) retrieving the stored at least one of changed configuration information and state information; and
(ii) transmitting the retrieved at least one of changed configuration information and state information to the first server process in the first agent/server pair.

27. (Currently Amended) The article of manufacture of claim 23, wherein the second agent process is launched at one of the two clusters and wherein the operations further comprise:
receiving at least one of changed configuration information and changed state information for the cluster, wherein the configuration information includes how many storage devices are in the cluster, and wherein the state information includes an indication of whether each storage device is available or unavailable;

storing the at least one of changed configuration information and changed state information as persistent data at the cluster;

broadcasting the at least one of changed configuration information and changed state information for the cluster; and

under control of the second agent process in the second agent/server pair,

(i) retrieving the stored at least one of changed configuration information and state information; and

(ii) transmitting the retrieved at least one of changed configuration information and state information to the second server process in the second agent/server pair.

28. (Original) The article of manufacture of claim 22, wherein the first agent process is launched if a first server is configured and wherein the second agent process is launched if a second server is configured.

29. (Original) The article of manufacture of claim 22, wherein the operations further comprise:

under control of the first agent process,

receiving a request to execute the task from the first server process;

storing identification for the first agent process in persistent data;

invoking a driver process for executing the task;

receiving task completion status from the driver process; and

forwarding the task completion status to the first server process.

30. (Original) The article of manufacture of claim 22, wherein the operations further comprise:

under control of the second agent process,

receiving a request to execute the task from the second server process;

storing identification for the second agent process in persistent data;

invoking a driver process for executing the task;

receiving task completion status from the driver process; and

forwarding the task completion status to the second server process.